

Appendix B¹

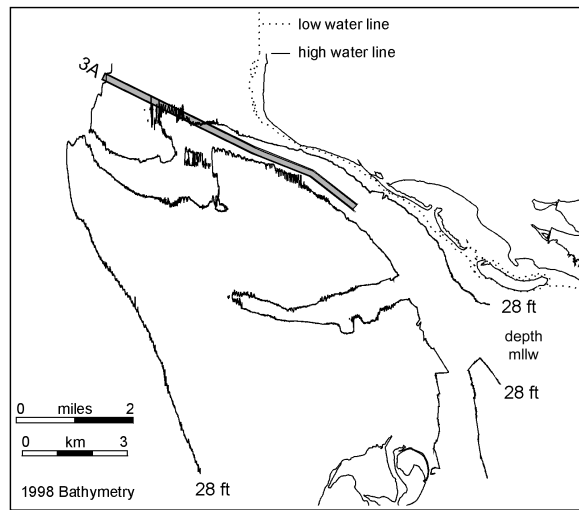
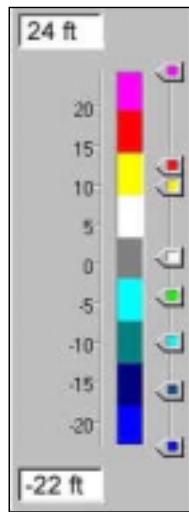
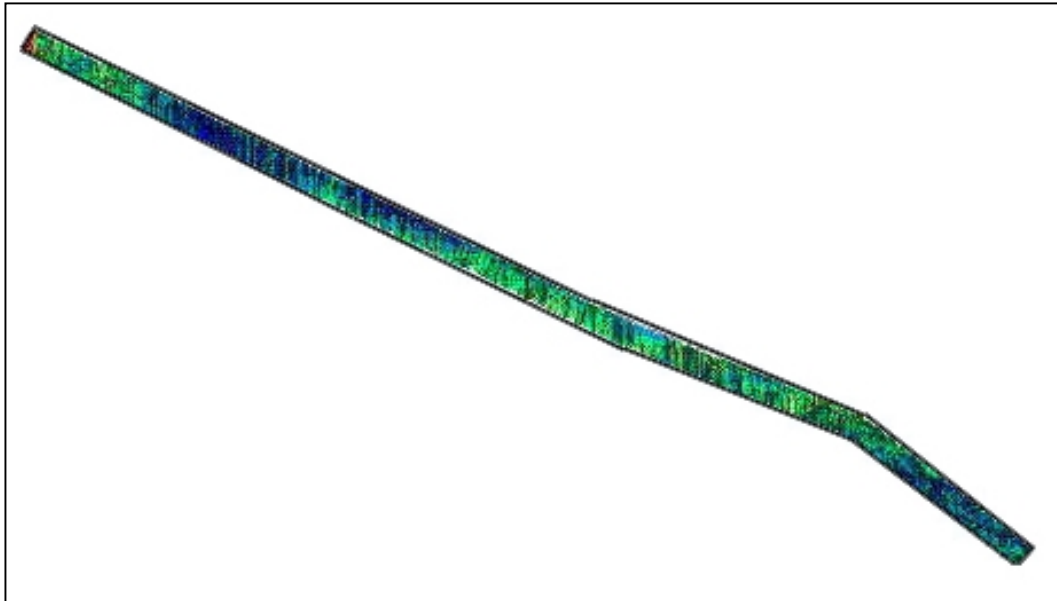
Template Layouts and Recent Volume Changes

Figures in this appendix show positions within the bay entrance of seven templates corresponding to the three categories of channel alternatives that passed screening as described in Chapters 2 and 7 of the main text. A template is a geometric form that matches the channel design cross section (width, depth, and side slopes). The volumes of erosion (cut) and deposition (fill) within the templates between the 1998 and 1999 surveys are tabulated. Average, maximum, and minimum thicknesses and the spatial distribution of changes are shown in tables and graphs.

This appendix summarizes 1998-99 channel changes within templates covered by dense soundings that were collected concurrently with extensive process measurements. The numerical simulations presented in Chapter 6 are also for this year. Because changes from one year to the next can vary widely, Chapter 3 combined 1998-to-1999 changes with statistics from other years (Table 3-4 and 3-5) and other templates (Figure 3-22) to derive the likely long-term cumulative dredging requirement for each channel alternative (Table 3-7). Depths are referenced to mean lower low water (mllw).

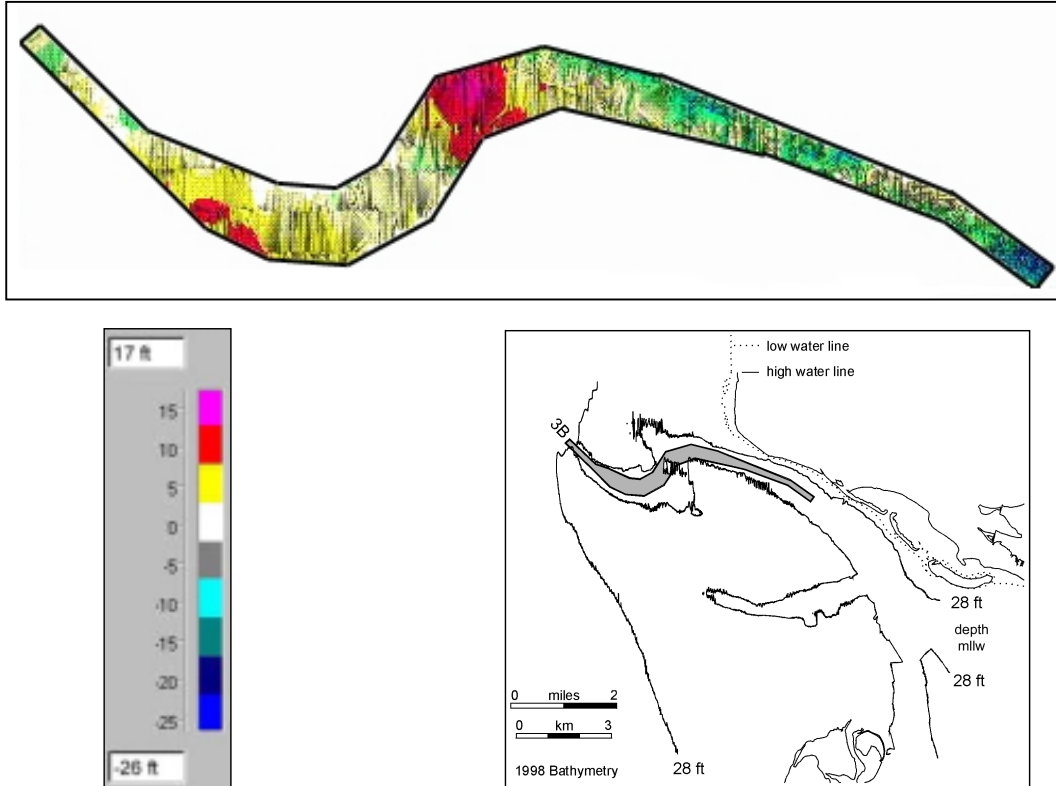
¹ Written by Mr. Edward B. Hands, U.S. Army Engineer Research and Development Center, Coastal and Hydraulics Laboratory (CHL), Vicksburg, MS. Ms. Mary C. Allison (CHL) prepared the digital images.

North Channel Option Template 3A



Above or Below Design Depth (28 ft mllw)	8-Month Change 8/98 to 4/99			Annualized Change Rate			
	Fill	Cut	Net	Fill		Net Change	
	Cu yd	cu yd	Change cu yd	cu yd	cu ft/sq ft	cu yd	cu ft/sq ft
Above Design Depth	3.7E+04	-8.0E+05	-7.6E+05	5.2E+04	0.1	-1.1E+06	-1.7
Below Design Depth	1.4E+05	-3.8E+06	-3.7E+06				
Total	1.7E+05	-4.6E+06	-4.5E+06	2.5E+05	0.4	-6.3E+06	-9.9
NOTE: Template area = 17,168,038 sq ft.							

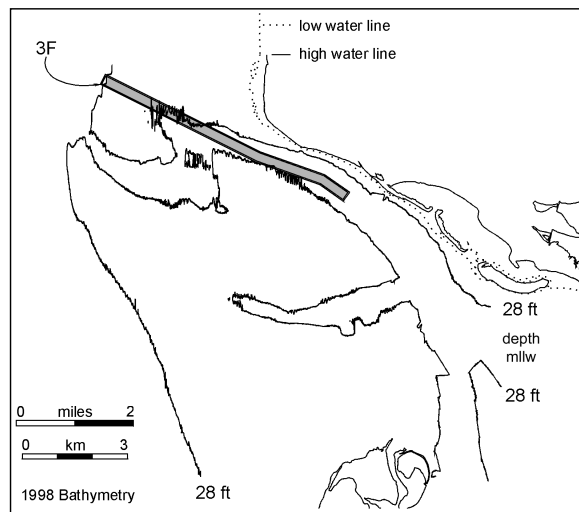
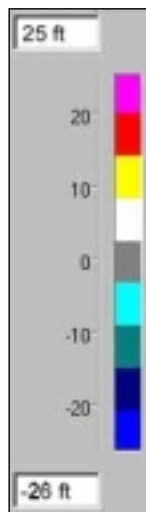
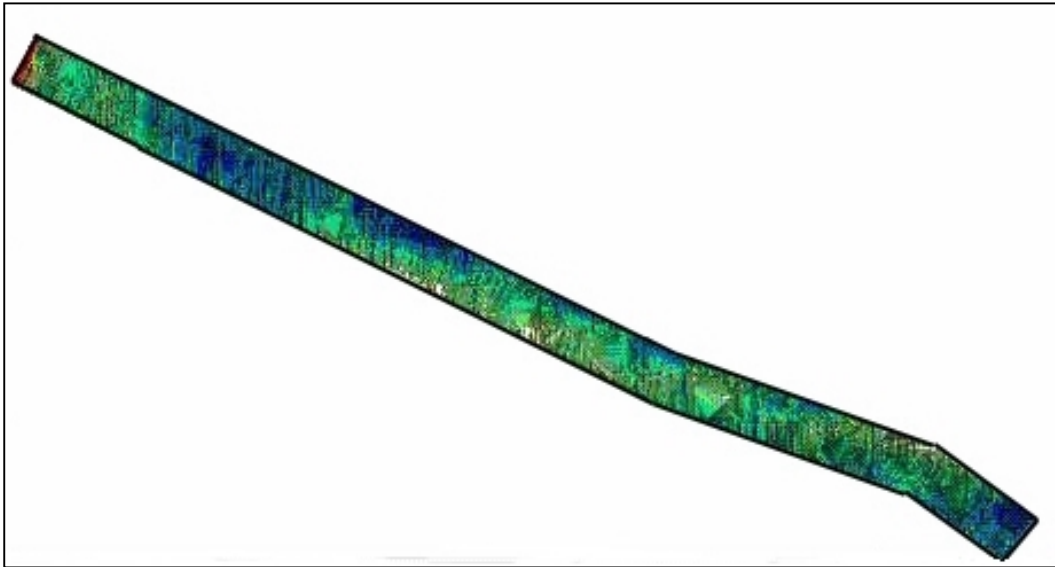
North Channel Option Template 3B



Though natural channels were smaller than design alternatives, the calculated changes shown for the other pages in this appendix are indicative of the shoaling potential during 1998-1999. For the migrating Alternative 3B, however, the changes within Template 3B do not represent either long-term changes or more importantly any specific dredging requirement because, if Alternative 3B had been present, unacceptably large-volume dredging would probably have been scheduled in 1998 to relocate the authorized channel to a more northerly position close to Alternative 3A. The changes shown here do represent what would have occurred during 1998-1999 within Template 3B. These measured changes compare well with modeled current and deposition patterns for the same area based on simulated conditions for shorter periods during this same year (Chapter 6 and Appendix G).

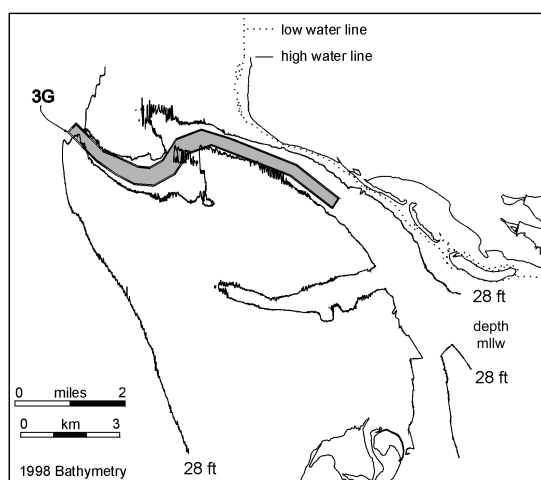
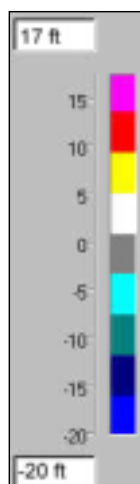
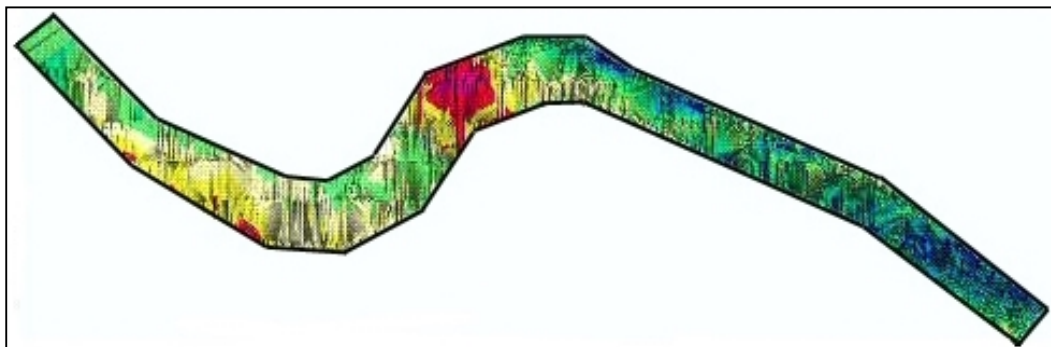
Above or Below Design Depth (28 ft mllw)	8-Month Change 8/98 to 4/99			Annualized Change Rate			
	Fill cu yd	Cut cu yd	Net Change cu yd	Fill		Net Change	
				cu yd	cu ft/sq ft	cu yd	cu ft/sq ft
Above Design Depth	1.0E+06	-3.4E+03	1.0E+06	1.4E+06	1.2	1.4E+06	1.2
Below Design Depth	2.4E+06	-2.0E+06	4.3E+05				
Total	3.4E+06	-2.0E+06	1.4E+06	4.9E+06	1.1	2.0E+06	1.6
NOTE: Template area = 33,155,116 sq ft.							

North Channel Option Template 3F



Above or Below Design Depth (38 ft mllw)	8-Month Change 8/98 to 4/99			Annualized Change Rate			
	Fill	Cut	Net Change	Fill		Net Change	
	cu yd	cu yd		cu yd	cu ft/sq ft	cu yd	cu ft/sq ft
Above Design Depth	3.1E+05	-3.2E+06	-2.9E+06	4.3E+05	12.7	-4.1E+06	-121.3
Below Design Depth	1.3E+05	-2.3E+06	-2.2E+06				
Total	4.3E+05	-5.5E+06	-5.1E+06	6.1E+05	17.9	-7.2E+06	-212.0
NOTE: Template area = 24,499,897 sq ft.							

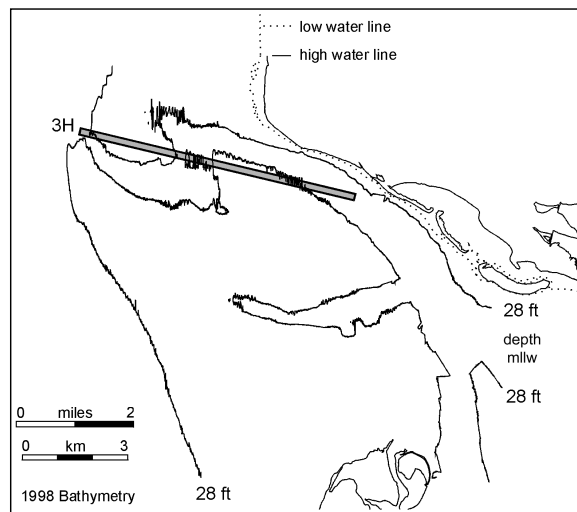
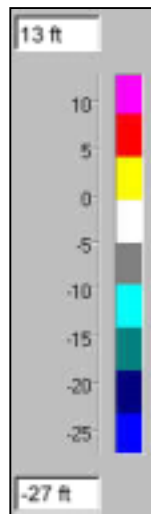
North Channel Option Template 3G



Though natural channels were smaller than design alternatives, the calculated changes shown for the other pages in this appendix are indicative of the shoaling potential for those Alternatives during 1998-1999. For the migrating Alternative 3G, the changes within Template 3G do not represent either long-term changes or more importantly any specific dredging requirement because, if Alternative 3G had been in effect, relocation dredging would probably have been scheduled in 1998 to move the authorized channel to a more northerly position close to Template 3F. The changes shown here do represent what would have occurred during 1998-1999 within Template 3G. These changes compare well with modeled current and deposition patterns for the same area, based on simulated conditions for shorter periods during the same year (Appendix 3G).

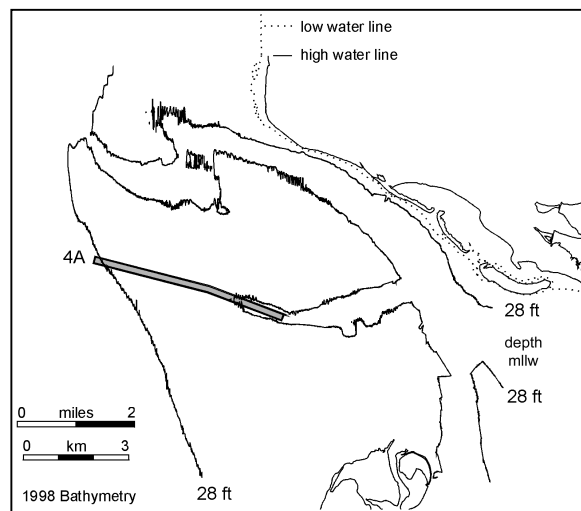
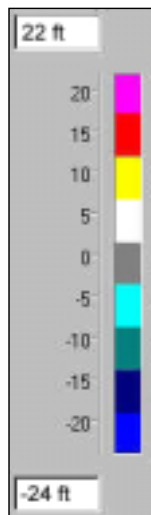
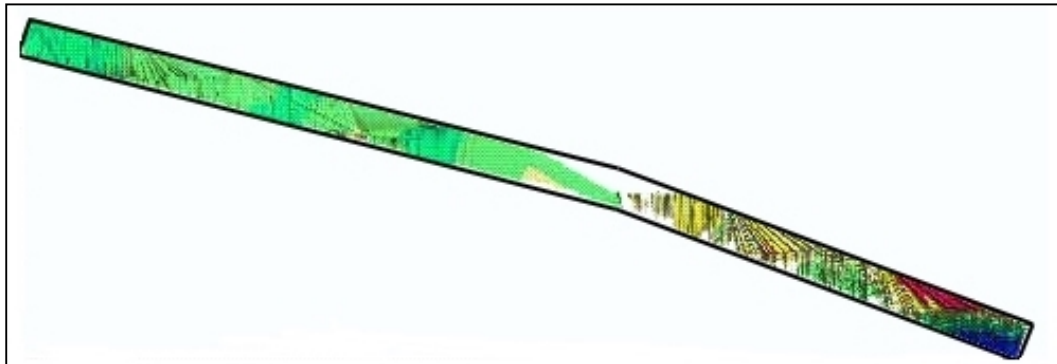
Above or Below Design Depth (38 ft mllw)	8-Month Change 8/98 to 4/99			Annualized Change Rate			
	Fill cu yd	Cut cu yd	Net Change cu yd	Fill cu yd	cu ft/sq ft	Net Change cu yd	cu ft/sq ft
Above Design Depth	3.5E+06	-7.5E+05	2.7E+06	4.9E+06	3.0	3.9E+06	2.4
Below Design Depth	3.7E+05	-3.3E+06	-2.9E+06				
Total	3.8E+06	-4.0E+06	-1.6E+05	5.4E+06	3.4	-2.3E+05	-0.1
NOTE: Template area = 43,596,918 sq ft.							

SR-105 Channel Options 3Ha and 3Hb Template 3H



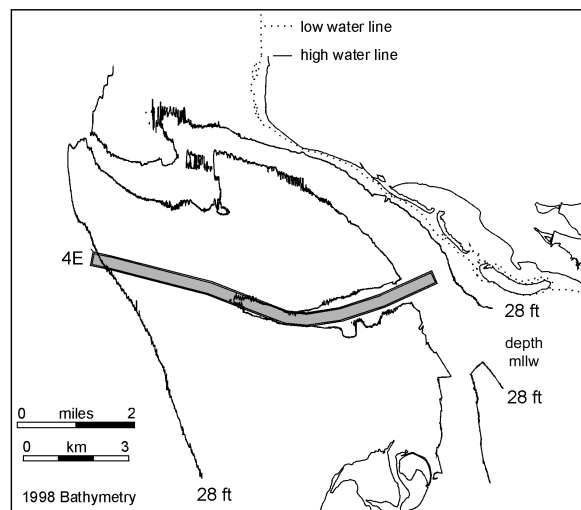
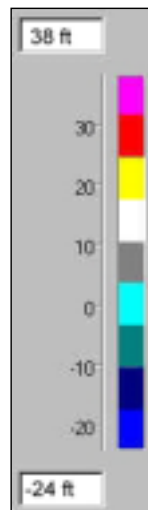
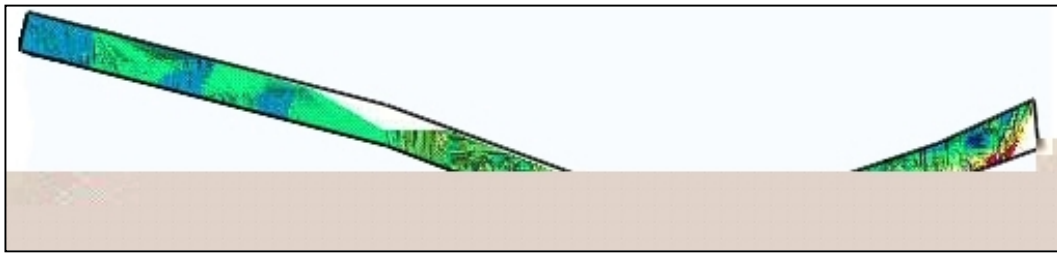
Above or Below Design Depth (28 ft mllw)	8-Month Change 8/98 to 4/99			Annualized Change Rate			
	Fill	Cut	Net Change	Fill		Net Change	
	cu yd	cu yd		cu yd	cu ft/sq ft	cu yd	cu ft/sq ft
Above Design Depth	5.7E+05	-1.0E+06	-4.5E+05	8.0E+05	1.3	-6.3E+05	-1.0
Below Design Depth	1.1E+05	-1.7E+06	-1.5E+06				
Total	6.8E+05	-2.7E+06	-2.0E+06	9.6E+05	1.5	-2.8E+06	-4.4
NOTE: Template area = 17,061,317 sq ft.							

Middle Channel Option Template 4A



Above or Below Design Depth (28 ft mllw)	8-Month Change 8/98 to 4/99			Annualized Change Rate			
	Fill cu yd	Cut cu yd	Net Change cu yd	Fill		Net Change	
				cu yd	cu ft/sq ft	cu yd	cu ft/sq ft
Above Design Depth	2.9E+05	-2.4E+05	5.1E+04	4.1E+05	0.9	7.2E+04	0.2
Below Design Depth	4.0E+05	-4.5E+05	-5.3E+04				
Total	6.9E+05	-6.9E+05	-1.7E+03	9.7E+05	2.2	-2.4E+03	0.0
NOTE: Template area = 11,923,267 sq ft.							

Middle Channel Option Template 4E



Above or Below Design Depth (38 ft mllw)	8-Month Change 8/98 to 4/99			Annualized Change Rate			
	Fill cu yd	Cut cu yd	Net Change cu yd	Fill		Net Change	
				cu yd	cu ft/sq ft	cu yd	cu ft/sq ft
Above Design Depth	1.6E+06	-1.7E+06	-9.0E+04	2.2E+06	1.5	-1.3E+05	-0.1
Below Design Depth	4.1E+05	-1.1E+06	-6.8E+05				
Total	2.0E+06	-2.8E+06	-7.7E+05	2.8E+06	1.9	-1.1E+06	-0.7
NOTE: Template area = 39,797,130 sq ft.							